## Listing of the Claims

1.(previously presented) A method of fabricating a preform for use in manufacturing optical waveguide fiber, the method comprising the steps of:

depositing soot onto a substrate to form a soot body thereon, the soot body having opposing first and second ends;

removing the substrate from the soot body, thereby forming a centerline hole extending axially through the soot body from the first end to the second end of the soot body, the centerline hole having two opposing ends disposed at the first and second ends of the soot body, respectively;

inserting a first glass body into the centerline hole at the first end of the soot body, the first glass body comprising deuterated glass;

drying the soot body; and

consolidating the soot body to form a glass preform.

2. (previously presented) The method of Claim 1 wherein a portion of the soot body sinters around and engages the first glass body during the consolidating step.

3. (previously presented) The method of Claim 1 wherein the opposing ends of the centerline hole are closed during the consolidating step, wherein the glass preform has a sealed centerline hole.

4. (previously presented) The method of Claim 1 wherein the inserting step further comprises inserting a second glass body into the centerline hole at the second end of the soot body.

5. (previously presented) The method of Claim 4 wherein the second glass body comprises deuterated glass.

6. (canceled)

7. (previously presented) The method of Claim 1 wherein the first glass body is deuterated before the depositing step.

8. (previously presented) The method of Claim 1 wherein the first glass body is deuterated before the inserting step.

9. (previously presented) The method of Claim 1 wherein, prior to the depositing step, the substrate is inserted into a tubular glass body, and during the depositing step, a portion of the soot is deposited on the tubular glass body.

10. (previously presented) The method of Claim 9 wherein the tubular glass body comprises deuterated glass.

11. (canceled)

12.(original) The method of Claim 1 further comprising overcladding the glass preform.

13. (original) The method of Claim 12 wherein the overcladding step further comprises depositing soot onto the glass preform.

14. (original) The method of Claim 13 further comprising drying and consolidating the soot deposited on the glass preform.

15. (original) The method of Claim 12 wherein the overcladding step further comprises disposing a tube over the glass preform.

16. (previously presented) A method of forming optical fiber comprising drawing the glass preform of Claim 1 into the optical fiber and deuterating the optical fiber.

17.(withdrawn) A low water peak, hydrogen resistant optical waveguide fiber, the fiber comprising:

a silica containing glass core; and

a glass cladding surrounding the silica containing glass core;

wherein the optical waveguide fiber exhibits an optical attenuation at a wavelength of about 1383 nm which is less than or equal to an optical attenuation exhibited at a wavelength of about 1310 nm; and

wherein the optical waveguide fiber exhibits a maximum hydrogen induced attenuation change of less than about 0.03 dB/km at a wavelength of 1383 nm after being subjected to a 0.01 atm hydrogen partial pressure for at least 144 hours.

18. (withdrawn) The optical waveguide fiber of claim 17, wherein the optical attenuation exhibited at a wavelength of about 1383 nm is at least 0.04 dB/km less than the optical attenuation exhibited at a wavelength of about 1310 nm.

19. (withdrawn) The optical waveguide fiber of claim 18, wherein the optical attenuation exhibited at a wavelength of about 1383 nm is less than or equal to about 0.35 dB/km.

20. (withdrawn) The optical waveguide fiber of claim 19, wherein the optical attenuation exhibited at a wavelength of about 1383 nm is less than or equal to about 0.31 dB/km.

21. (withdrawn) A low water peak, hydrogen resistant optical waveguide fiber, the fiber comprising:

a silica containing glass core; and

a glass cladding surrounding the silica containing glass core;

wherein the optical waveguide fiber exhibits an optical attenuation of less than about 0.31 dB/km at a wavelength of about 1383 nm; and

wherein the optical waveguide fiber exhibits a maximum hydrogen induced attenuation change of less than about 0.03 dB/km at a wavelength of about 1383 nm after being subjected to a 0.01 atm hydrogen partial pressure for at least 144 hours.

22. (withdrawn) The optical waveguide fiber of claim 21, wherein the optical waveguide fiber exhibits a maximum hydrogen induced attenuation change of less than about 0.03 dB/km at a wavelength of about 1383 nm after being subjected to a 0.01 atm hydrogen partial pressure for at least 336 hours.

23. (withdrawn) The optical waveguide fiber of claim 21, wherein the optical waveguide fiber exhibits an optical attenuation of less than about 0.36 dB/km at each wavelength within a wavelength range from about 1300 nm to about 1600 nm.

24. (withdrawn) The optical waveguide fiber of claim 21, wherein the core is doped with germania.

25. (withdrawn) The optical waveguide fiber of claim 21, wherein the core and the cladding each have a respective refractive index which form a step-index profile.

26. (withdrawn) The optical waveguide fiber of claim 21, wherein the fiber is capable of single mode operation at 1550 nm.

27. (withdrawn) The optical waveguide fiber of claim 21, wherein the fiber has a cable cutoff wavelength of less than or equal to about 1260 nm.

28. (withdrawn) The optical waveguide fiber of claim 21, wherein the cladding glass comprises silica.

29. (withdrawn) The optical waveguide fiber of claim 21, wherein the fiber contains no fluorine-based dopant.

30. (withdrawn) The optical waveguide fiber of claim 21, wherein the glass core contains no fluorine-based dopant.

31. (withdrawn) The optical waveguide fiber of claim 21, wherein the glass cladding contains no fluorine-based dopant.

32. (withdrawn) The optical waveguide fiber of claim 21, wherein the fiber is formed from an OVD process.

33. (withdrawn) The optical waveguide fiber of claim 21, wherein the silica containing core glass includes a weighted average OH content of less than 1 ppb.

34. (withdrawn) A low water peak, hydrogen resistant optical waveguide fiber, the fiber comprising:

a silica containing glass core; and

a glass cladding surrounding the silica containing glass core;

wherein the optical waveguide fiber exhibits an optical attenuation of less than about 0.36 dB/km at each wavelength within a wavelength range from about 1300 nm to about 1600 nm after being subjected to a 0.01 atm hydrogen partial pressure for at least 144 hours.

35. (withdrawn) A preform for use in manufacturing optical waveguide fiber, the preform comprising:

a silica body having a through-hole with two open ends; and

at least one deuterated glass body disposed at least partially in the silica body, the deuterated body having at least a portion thereof exposed to the hole;

wherein the preform is capable of being subsequently drawn into an optical waveguide fiber; and

wherein the deuterated body does not form part of the optical waveguide fiber.

36. (canceled)

37. (canceled)

38.(withdrawn) A waveguide fiber communications link, having no regenerators and having a bit rate and a length, comprising:

a laser source to provide light signals that have a pre-selected wavelength;

a receiver to receive light at the pre-selected wavelength; and,

at least one length of waveguide fiber having a first and a second end, the first end optically coupled to the laser source to receive the laser light, and the second end optically coupled to the receiver; wherein,

the laser source is chirped, the chirp being either positive or negative, and, the total dispersion of the at least one length of waveguide fiber at about 1380 nm has total dispersion opposite in sign to the laser chirp.

39.(previously presented) The method of Claim 4 wherein the second glass body is not deuterated prior to insertion into the centerline hole.

40. (previously presented) The method of Claim 4 wherein the second glass body is deuterated prior to insertion into the centerline hole.

41. (previously presented) The method of Claim 9 wherein the tubular glass body is deuterated prior to the depositing step.

42. (previously presented) A method of fabricating a preform for use in manufacturing optical waveguide fiber, the method comprising the steps of:

depositing soot onto a substrate and onto a deuterated glass body to form a soot body thereon, the soot body having opposing first and second ends;

removing the substrate from the soot body, thereby forming a centerline hole extending axially through the soot body from the first end to the second end of the soot body, the centerline hole having two opposing ends disposed at the first and second ends of the soot body, respectively;

drying the soot body; and

consolidating the soot body to form a glass preform.

43. (previously presented) The method of claim 42 further comprising, after removing the substrate from the soot body and before drying the soot body, inserting a first glass body into the centerline hole at one of the opposing first and second ends of the soot body.

44. (previously presented) The method of claim 43 wherein the first glass body comprises deuterated glass.

45. (previously presented) The method of claim 43 wherein the first glass body is deuterated prior to being inserted into the soot body.

46. (previously presented) The method of claim 43 further comprising, after removing the substrate from the soot body and before drying the soot body, inserting a second glass body into the centerline hole at the other one of the opposing first and second ends of the soot body.

47. (previously presented) The method of claim 46 wherein at least one of the first glass body and the second glass body comprises deuterated glass.

48. (previously presented) The method of claim 46 wherein at least one of the first glass body and the second glass body is deuterated prior to being inserted into the soot body.

49. (previously presented) A method of fabricating a preform for use in manufacturing optical waveguide fiber, the method comprising the steps of:

depositing soot onto a substrate and onto a tubular glass body to form a soot body thereon, the soot body having opposing first and second ends;

removing the substrate from the soot body, thereby forming a centerline hole extending axially through the soot body from the first end to the second end of the soot body, the centerline hole having two opposing ends disposed at the first and second ends of the soot body, respectively;

inserting a first glass body into the centerline hole at the first end of the soot body and inserting a second glass body into the centerline hole at the second end of the soot body;

drying the soot body; and

consolidating the soot body to form a glass preform;

wherein at least one of the tubular glass body, the first glass body, and the second glass body comprises deuterated glass.

50. (previously presented) The method of claim 49 wherein the tubular glass body is deuterated prior to the depositing step, and/or the first glass body is deuterated prior to insertion into the centerline hole, and/or the second glass body is deuterated prior to insertion into the centerline hole.

51. (previously presented) The method of claim 49 wherein the tubular glass body is disposed at the first end of the soot body.

52. (previously presented) The method of claim 51 wherein at least a portion of the first glass body is disposed within the tubular glass body after inserting the first glass body into the soot body.

53. (previously presented) The method of claim 49 wherein the tubular glass body is disposed at the second end of the soot body.

54. (previously presented) The method of claim 53 wherein at least a portion of the second glass body is disposed within the tubular glass body after inserting the second glass body into the soot body.